

## CLAIMS

1. A semiconductor device comprising:  
a substrate;  
an insulating film of a fluorine-contained carbon film  
formed on said substrate; and  
a wiring layer of copper formed on said insulating film.
2. A semiconductor device comprising:  
a substrate;  
an insulating film of a fluorine-contained carbon film  
formed on said substrate;  
a wiring layer of copper formed on said insulating film;  
and  
an adhesion layer, formed between said insulating film  
and said wiring layer, for preventing said wiring layer from  
being peeled off from said insulating film.
3. A semiconductor device as set forth in claim 2, wherein  
said adhesion layer comprises a metal layer of a metal, and  
a layer of a compound containing carbon and said metal.
4. A semiconductor device as set forth in claim 3, wherein  
said metal layer is a titanium layer.
5. A semiconductor device as set forth in any one of claims  
1 through 4, wherein said insulating film is amorphous.
6. A semiconductor device as set forth in any one of claims  
1 through 4, wherein said insulating film has a film density  
of 1.50 g/cm<sup>3</sup> or higher.
7. A semiconductor device as set forth in any one of claims  
1 through 4, wherein said insulating film contains oxygen  
having a concentration of 3 atomic% or less.
8. A semiconductor device as set forth in any one of claims

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1 through 4, wherein said insulating film contains nitrogen having a concentration of 3 atomic% or less.

9. A semiconductor device as set forth in any one of claims 1 through 4, wherein said insulating film contains boron having a concentration of from  $10^{-3}$  atomic% to 1 atomic%.

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